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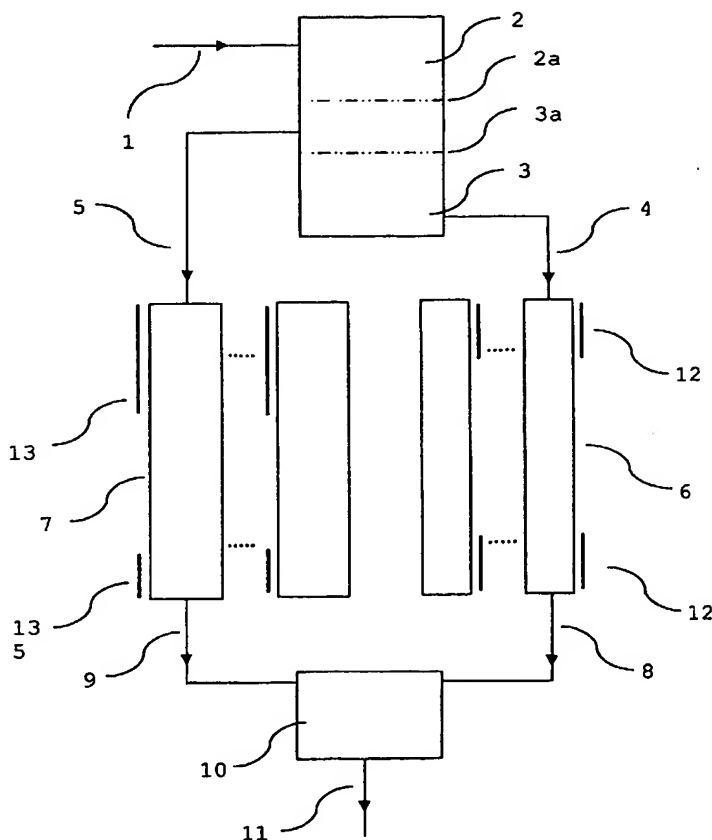
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(54) Title: MEASUREMENT AND MONITORING SYSTEM OF DAIRY STOCK AND PLANT



(57) Abstract. A measurement sensor where a mixed solution enters a manifold (1) and is separated in an entry chamber (2) by a whirlpool and/or setting effect. An accumulation chamber (3) and outflow (4) positioned in the lower peripheral of the entry chamber (2) causes the separated solution to preferentially flow to a sensing tube (6) with surface to sectional area dimensions optimised for high frequency electric field measurement of solution parameters used to determine capacitance and conductivity. Overflow of mixed solution enters (5) similar sensing tubes (7), for mixed flow measurements used to determine mass and flow rate. The number and size of the overflow tubes (7) give minimal head loss through the manifold. Solution is recombined in an exit chamber (10) that causes fluid dynamic restrictions (8) to extend solution residence time in measurement tube (6) before exiting the manifold (11). Also disclosed is measurement of a fluid parameter by improving the measurement sensitivity by at least partially canceling the effect of dielectric properties of the containment wall through which the parameter is sensed, and a method for determining plant performance using stored performance profiles.

WO 03/104785 A1